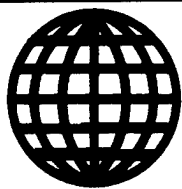


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31 AUGUST 1990



**FOREIGN
BROADCAST
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JPRS Report

Telecommunications

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Telecommunications

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CONGO

New Shortwave Transmitter Inaugurated

AB1708165990 Paris AFP in French 1001 GMT
14 Aug 90

[Text] Brazzaville, 14 Aug (AFP)—A new short wave transmitter of the Congolese official radio was inaugurated yesterday 45 km north of Brazzaville, it was learned today from official sources. These installations were financed with an FRG loan of 7,2 billion CFA francs (144 million French francs).

This transmitter is equipped with a dual omnidirectional antenna system, each with an output of 100 kw. It has a listening radius of 3,000 km, which will make it possible for it to be heard by most African countries. In the near future, two other antennae, each of 300 kw, are expected to be installed so that the radio station can be heard throughout most of the world.

KENYA

Government Approves Third TV Channel

EA1708190990 Nairobi THE STANDARD in English
15 Aug 90 p 11

[Text] The government has given Stellascope Ltd the go-ahead to establish the country's third television channel, "THE STANDARD" has learned. The proprietor of Stellascope, Mr. Hilary Ng'weno, yesterday confirmed the approval to "THE STANDARD", but added that plans on how the new channel was going to operate were not yet complete.

Mr Ng'weno, who is also the publisher and editor-in-chief of "WEEKLY REVIEW", said he would have a full report on the new television channel in two weeks' time. He, however, said he had not yet been given approval to operate a radio channel.

The establishment of the channel will pose a challenge to the Kenya Television Network's [KTN] Channel 62 and to the newly-established Kenya Broadcasting Corporation [KBC]. The approval comes only a few months after the launching of the Kenya Times Media Trust-owned 24-hour television service [KTN]. The trust is a joint venture between KANU [Kenya African National Union] and a British publishing magnate, Mr. Robert Maxwell. KTN's channel 62 is not, however, received outside Nairobi.

Mr. Ng'weno's plan to establish a television channel to rival the KBC started some years back. He has made several productions which have been shown on KBC television.

NIGERIA

Imo State Awards Contract for Two Transmitters

AB1308133890 Lagos Domestic Service in English
2100 GMT 11 Aug 90

[Text] The Imo State Government has awarded a 3.8 million-naira contract for the supply and installation of two sets of 30 kw transmitters for the state FM stereo radio station. The commissioner for information and culture, Dr. Alor Egiogu, who signed on behalf of the state governor, explained that the contract was awarded because the present transmitter, which was purchased in 1981, had broken down.

SOUTH AFRICA

New International Telephone Exchange System Introduced

MB2708180490 Johannesburg Television Service
in English 1545 GMT 27 Aug 90

[Text] Have you ever tried dialing the Canary Islands direct? Well, now your problems are over.

A new international telephone exchange, which will link South Africa to those counties that do not have direct dialing facilities, was opened in Bellville today by the Minister of Mineral and Energy Affairs, Dr. Dawie de Villiers. Ed Herbst reports.

[Begin Herbst video recording] The biggest complaint which subscribers have is the length of time it takes to make a call to countries which do not have automatic exchanges. The new three and a half million rand system will significantly speed up such calls.

Information which, in the past, had to be looked up in books, or in computer printouts, is now available on terminals at the touch of a button, and call details no longer have to be recorded by hand.

The new system will also save the taxpayer hundreds of thousand of rands annually by eliminating fraudulent reverse charge calls from call boxes overseas to call boxes in this country.

At the opening ceremony, Dr. de Villiers said the new system was one of the most advanced in the world and could process more than 8,000 calls a day. [end recording]

ZIMBABWE

Telecommunications 5-Year Plan Detailed

90WT0136b Harare THE FINANCIAL GAZETTE
in English 13 Jul 90 pp 1,3

[Article by Rangarirai Shoko]

[Text] The Posts and Telecommunications Corporation (PTC) has drawn up a \$450 million five-year telecommunications and postal development plan for all the country's provinces.

A document containing the plans, whose copy the FINANCIAL GAZETTE has, says the bulk of the money would be spent on rehabilitation of telecommunications networks of the corporation.

The plans, mainly the digitalisation of PTC's telephone network, are for the period 1989 to 1994. The PTC hopes to generate an additional income of \$92 million and steeply reduce the number of both telephone and telex applicants on the waiting list.

Of the total amount, the PTC has earmarked more than \$100 million for digitalisation programmes in Mashonaland and Manicaland provinces alone, which will involve replacement of existing old exchange equipment with modern digital ones and new transmission systems.

The document says the digitalisation programme in Mashonaland and Manicaland provinces, which involves among others, exchanges at the Harare Trunk, Avondale, Borrowdale, Highlands, Cranborne, Glenview, Chinhoyi, Marondera and Mutare, will take about seven years to complete.

It covers the supply, installation, testing and commissioning of the equipment, and training of the corporation's staff in operations and maintenance.

The development project, one of the most ambitious the corporation has ever undertaken, relies heavily on donor funding, and the document speaks of the need for speedy negotiations with the government to identify financiers.

The blueprint says the corporation had been spurred to undertake the mammoth telecommunications development scheme to cope with demand, which is growing at an average rate of 7 percent a year for telephone services and 10 percent of the same period for telex services.

Under the plan, the PTC hopes to wipe out more than 33,000 applicants from its waiting list for telephones, countrywide, and 2,000 for telexes by 1994 when the programme ends.

Additional telephone connections alone were projected to earn the corporation an extra \$73.3 million under the development plan, while new telex services were expected to earn more than \$19 million.

In Midlands, the PTC plans to spend more than \$25 million on the digitalisation of the telephone exchanges in Gweru and Kwekwe which has been outpaced by demand.

In the Matabeleland and Masvingo provinces, the corporation has earmarked \$36 million and \$4 million respectively for similar rehabilitation of the exchanges, which, in most cases, are either of the outdated analogue or electro mechanical type which have outlived their life spans.

The document says work on the digitalisation of the exchanges in Matabeleland will take three years. It will

start in the financial year 1990/91. The financing for the Masvingo programme has been secured under an Italian protocol.

Smaller digital programmes under the plan, include the Southerton exchange the Harare local exchange and the provision of selected internal and external microwave routes for which \$7 million was being sought.

The telecommunications development blueprint says the PTC wants to expand the facilities at the Mazowe Earth Station at a cost of \$25 million to cater for additional traffic to countries serviced by the Atlantic Ocean Satellite.

It also wants to instal digital equipment to link up the earth station to the Gweru International Switching Centre and to achieve live transmission of events from the Harare Conference Centre and the National Sports Stadium.

The corporation also plans to instal a second antenna at the earth station facing the Indian Ocean to meet telecommunication demands of countries covered by the Indian Ocean Satellite which was currently received via transit routes, the document says.

It would also spend a projected \$6 million to provide transmission circuits to the Zimbabwe Broadcasting Corporation, to allow it to extend the broadcasting range of its channel 4 to Bulawayo, Gweru, Mutare, Masvingo, Beitbridge and Plumtree.

At the Gweru International Exchange, the PTC plans to spend another \$6 million to train staff and re-equip it with additional hardware and software to brace it for projected future demands.

The document says the corporation wants to spend more than \$31 million on the development of telecommunications in the rural areas under the programme, but is still assessing the best way of doing so.

"Economic studies are being carried out to determine the most economic means of equipping these remaining exchanges," it said.

It adds: "Tentatively, it is planned that the equipment recovered as a result of digitalisation of big exchanges will be used in these areas after refurbishment."

The PTC says in the document that it was giving early attention to the development of telecommunication services in the rural areas to avoid being found wanting as a result of commercial growth in these areas.

The corporation says a change in telex numbering from 4 to 5 had necessitated new concentrators in Mutare,

Masvingo and Chinhoyi, a project which, together with other planned telex expansion schemes elsewhere, the PTC needed more than \$11 million for.

It also plans to spend more than \$24 million on installing a data-packed switching system for particular use by computer users, especially the banking and commercial sectors.

Other projects earmarked include provision of private automatic branch exchanges to other Government departments, for which the corporation plans to spend more than \$24 million, and a national plan for the improvement of maintenance programme to cost \$55 million.

President Commissions Microwave Link

*90WT0136a Harare THE HERALD in English
21 Jul 90 p 1*

[Text] Almost all countries in Southern and Eastern Africa are now linked by telephone following the commissioning yesterday in Mutoko of the \$22 million microwave link connecting Harare to Blantyre through Tete in Mozambique.

The link fills one of the last major gaps in the SADCC [Southern African Development Coordination Conference] network and is an extension of the Pan-African Telecommunications network known as Panaftel.

Following the opening of the new micro-wave link, the Panaftel network will now connect by telephone virtually all the Southern and East African countries, up to Ethiopia. The first such link, that between Botswana, Zimbabwe and Zambia, was commissioned in 1984. The link will also benefit communities lying near the line of stations, boosting rural communication.

The new link was opened by President Mugabe, with Mozambique represented by the President of the National Assembly, Cde Marcellino dos Santos, and Malawi by its Minister of Transport and Communications, Mr Dalton Katopola.

The Harare-Tete-Blantyre link is a digital microwave radio system. There is a terminal station in Harare, five radio relay stations in Zimbabwe, a radio relay station at Mount Careira and terminal station in Tete in Mozambique, and a radio relay station at Salambidwe in Malawi and a terminal station in Blantyre.

Within Zimbabwe, the system has a capacity of 140 megabit a second, which is equivalent to 1,920 telephone channels, while in Mozambique and Malawi the capacity is 34 megabit a second, which is equivalent to 480 telephone channels. The link also carries internal traffic, hence the heavier Zimbabwean capacity.

In the Murewa area, a multi-access radio subscriber distribution network is in place connecting some schools, hospitals and business centres to the new Murewa digital exchange. Similar systems are planned for Mutoko.

The Norwegian Agency for Development and the Swedish International Development Authority funded the whole project with a grant.

A Norwegian company, EB-NERA, supplied and installed the equipment and trained local staff to maintain it. Civil works were designed and executed by local companies.

President Mugabe described the link as an important milestone in the struggle to integrate sub-regional economies and make them totally self-sufficient.

"Here in Zimbabwe, this micro-wave link will open up telephone and television services in the communal areas of Murewa, Mutoko and Mudzi. This will boost general development in these areas in line with my Government's policy of allocating more resources for rural development."

More telephone facilities would avoid travel expenses and loss of time caused by long journeys by car and bus.

He called for local production of equipment in the sub-region using existing companies from the industrialised states.

Advanced 'Experimental' Telecommunications Network Built

OW1308200990 *Beijing Television Service in Mandarin*
1000 GMT 10 Aug 90

[From the "National News Hookup" program]

[Text] [Video begins with a long shot of a telecommunications room where several rows of people are seated in front of what appears to be television screens or computer screens; it then cuts to a closeup shot showing military men and civilian telephone operators working in an operation room] According to information released recently by the Commission in Charge of Science, Technology, and Industry for National Defense, China has built an advanced experimental telecommunications network for astronautical, national defense, and scientific research purposes. Over the past 30 years the network has made important contributions to the testing of guided missiles, satellites, carrier rockets, and nuclear and conventional weapons. At present, in most parts of China a tightly confidential land, sea, and air telecommunication network can be speedily formed in accordance with the special needs of various kinds of experiments. The network can perform functions, such as telephones, telegrams, data transmission, graph and language facsimile, and dispatching of commands.

[Video shows the outside view of a shipboard satellite station, a fixed satellite ground station, and the outside and inside view of a vehicle satellite station] Beginning in the 1980's, China built a number of ship, vehicle, and fixed satellite earth stations, forming an initial satellite telecommunication network. Practice has proven that these all-weather telecommunication networks have not only satisfied the needs of data transmission in connection with astronautical and scientific research for national defense and the exchange of information, and but have also outstandingly fulfilled the task of ensuring telecommunications for China during its launching of foreign satellites.

Domestically Made Digital Microwave Equipment Described

90P60044 *Beijing KEJI RIBAO [SCIENCE AND TECHNOLOGY DAILY] in Chinese* 22 Jul 90 p 1

[Unsigned article: "Chinese Manufacture of Small-to-Mid-Capacity Digital Microwave Communications Equipment Enters Practical Phase"]

[Summary] Xian, 21 Jul (XINHUA)—China's domestic manufacture of small-to-medium-capacity digital microwave (DMW) communications equipment has entered a practical phase with the recent announcement of three new DMW communications transmission systems (2Mb/s, 8Mb/s, and 34Mb/s, respectively) and eight new sets of communications equipment, all independently developed by the Ministry of Posts & Telecommunications' Xian Microwave Equipment Plant. This equipment, which has been technically certified as meeting international standards for the eighties, will be put into

batch production so as to replace imports of foreign products. These systems will be incorporated into the backbone microwave communications networks of mid-to-large-sized cities and will improve the backward state of communications in the nation's rural areas.

The Xian plant, China's largest specialized producer of complete sets of microwave communications equipment, has managed to raise co-channel circuit capacity in this new third-generation DMW transmission system to 1800 circuits.

Contract With Iran To Step Up Telecommunications

HK2408021490 *Beijing CHINA DAILY in English*
24 Aug 90 p 2

[By staff reporter Huang Xiang]

[Text] Sino-Iranian co-operation in the field of post and telecommunication promises a big jump as the two sides have just sealed a \$40-million contract and pledged more.

Under the contract, the largest ever in the industry between the two nations, Iran will purchase \$40 million worth of cable from China, CHINA DAILY learned yesterday.

This was actually the second such cable deal between China and Iran since Iran purchased \$14 million worth of the Chinese-made products in 1989.

The new contract was signed last Saturday by Yang Taifang, the Chinese minister of Posts and Telecommunications, and his Iranian counterpart, who headed an 11 member delegation to China last Friday.

A Ministry official said the Iranian Government was pondering the purchase of computer-controlled telephones from Shanghai-Bell, a Shanghai-based Sino-American joint venture.

Iran plans to raise its business volume in post and telecommunication with China to \$100 million in the next few years, from \$14 million in 1989.

During their stay in China, the Iranian officials have also discussed possibilities with various Chinese departments to purchase Chinese teletext and fax machines, microwave transmission equipment and satellite stations.

"If we are competitive enough in terms of prices, big deals are possible," said the official.

Along with the purchase contract, the two sides have also concluded a memorandum of understanding concerning technology transfer, personnel training and the opening of new businesses.

China has maintained a small mail business with Iran since the early 1970s.

**Circular on Strengthening Radio Administration
During Asiad**

*OW2408114790 Beijing XINHUA Domestic Service
in Chinese 0610 GMT 24 Aug 90*

[Text] Beijing, 24 Aug (XINHUA)—The State Committee for Radio Administration [guo jia wu xian dian guan li wei yuan hui 0948 1367 2477 4848 7193 4619 3810 1201 0765 2585] recently issued a circular on strengthening radio administration during the Asian Games in order to ensure the normal operation of various radio communications equipment.

The circular states: All radio stations set up within the jurisdiction of Beijing Municipality must obtain a document of approval or a radio station license, issued by the relevant departments before starting operations.

The circular calls on all radio stations to operate according to the approved frequencies, powers, radio characteristics, working districts and other parameters,

or the entries listed in the radio station license. Radio equipment brought into Beijing Municipality by members of groups or teams participating in the Asian Games should obtain permission from their respective provincial, autonomous regional, or municipal committee for radio administration. These groups should apply for a temporary license from the office of the Beijing Municipal Committee for Radio Administration before such radio equipment can be operated.

The circular says: During the Asian Games, the offices of the State Committee and the Beijing Municipal Committee for Radio Administration will jointly set up a radio station monitoring network to monitor all radio equipment operating within the Beijing region during the games. All localities and departments with radio equipment are urged to actively cooperate with and obey the supervision of the State Committee for Radio Administration to ensure smooth communication during the Asian Games.

INTER-ASIAN AFFAIRS

KDD To Lay Japan-China Optical-Fiber Submarine Cable*OW1308143890 Tokyo KYODO in English
1319 GMT 13 Aug 90*

[Text] Tokyo, Aug. 13 KYODO—KDD, Japan's international telecommunications giant, agreed Monday with China's Post and Telecommunications Ministry and American Telephone and Telegraph Co. (A T and T) to lay a submarine optical-fiber cable between Japan and China, a KDD spokesman said.

A memorandum of agreement signed by them also covers a plan to construct digital satellite communication facilities in China to be linked to the International Telecommunications Satellite (Intelsat) system, he said.

The optical-fiber undersea cable, the first of its kind to cover China, will run some 1,300 kilometers between Miyazaki in southern Kyushu and Shanghai. The operation is expected to start at the end of 1993, the spokesman said.

The 10 billion yen cable will have two communications circuits, each with a capacity of 560 megabits. The cable will be connected with the trans-pacific cable (TPC-4), due to be installed by 1992 between the United States and Japan, enabling China to participate in the global digital communication network, the KDD official said.

Meanwhile, the Intelsat facilities will be completed sometime next year, linking Beijing and Shanghai with Japan and the United States, he said.

The planned projects are private-sector initiatives and will not be affected by the international sanctions imposed against the Chinese Government since the military crackdown on the pro-democracy movement in Tiananmen Square in June last year, the spokesman added.

Taiwan, Malaysia To Join Fiber Optic Cable System*OW1508015190 Beijing XINHUA in English
0126 GMT 15 Aug 90*

[Text] Hong Kong, August 15 (XINHUA)—A fiber optic submarine cable system planned to be built to connect Hong Kong and Singapore and Japan will be expanded to include Malaysia and Taiwan, according to Hong Kong Telecom International.

The overall cost of the project is estimated at 310 million U.S. dollars and the cable, which can carry about 30,000 telephone calls simultaneously on each of the three fiber pairs will move traffic at a swift 560 mbit per second.

The 7,600 kilometer-long cable will be the longest fiber optic network in Asia, complementing the two fiber optic

systems already in place in Hong Kong, the Hong Kong-Japan-South Korea cable and the Hong Kong-Taiwan cable that came on line this summer.

The new system is expected to be open to traffic by mid-1993.

After the project is completed, Hong Kong will not only have diverse routings for international telecommunications across the Pacific Ocean, but will also be able to reach Europe through the Indian Ocean system and link up with the ASEAN optical fiber submarine cable system as well, Hong Kong Telecom International said.

AUSTRALIA

Contract Signed to Upgrade SRV's Telecommunications*BK2408071290 Melbourne Overseas Service in English
0500 GMT 24 Aug 90*

[Text] The Australian Government's international telecommunications company, OTC, has won a 10-year contract worth more than \$250 million with Vietnam. The federal communications minister, Mr Kim Beazley says the OTC International will implement a major program of development and modernization of the local telecommunications network in Vietnam.

Mr Beazley said the contract was evidence of the ability of the Australian expertise and equipment to compete in the global telecommunications market.

INDONESIA

Suharto Urges Private Sector Role in Telecom Area*BK2508091590 Jakarta ANTARA in English 0658 GMT
25 Aug 90*

[Text] Jakarta, Aug 25 (OANA-ANTARA)—President Suharto has called on the private business sector to take part in providing telecommunications facilities because the government's financial capability for this purpose is limited.

The president made the call in Wonosari, Gunung Kidul (Yogyakarta) when he symbolically commissioned newly-built central telephone exchanges in 30 cities located in 15 provinces in Indonesia Saturday.

The construction of telecommunications facilities throughout the country needs a very great amount of money and the government cannot provide the money alone, the president said.

Private business participation in this matter will help quicken and smoothen development in the telecommunications sector, he added.

In the last 14 years, he said, with the existence of the Palapa communication satellite, telecommunications activities have expanded rapidly in the country.

These activities have in turn helped make the whole area of the Indonesian Archipelago one national unit.

This is a sign of progress in national development.

But, the president said, there is more need for more telecommunications facilities.

President Suharto reminded that in the next two or three years, the implementation of the development program would go faster than now.

The situation in this development period is indeed different from the situation during the freedom struggle. But, there are a lot of things that we could learn from the independence struggle period in the interest of the current development, he said.

Firm determination, enthusiasm and never give up attitude were among lessons that should be taken from the independence struggle period, the head of state said.

After the opening ceremony, President Suharto toured the exhibition hall and had a dialogue with the audience.

Foreign Companies To Invest in Telephone Network

BK1908113190 Jakarta ANTARA in English 0624 GMT 19 Aug 90

[Text] Surabaya, Java, Aug 19 (OANA-ANTARA)—Six telecommunications companies of France, Japan and the United States have expressed intention to cooperate with the state-run telecommunications company, Perumtel, to build telecommunications network in Indonesia.

"Feasibility study on the private foreign companies' intention is currently being carried out," Perumtel operational director A. Purwo said here over the weekend.

The cooperation offered by Perumtel might be in the forms of production sharing or compensation and grant, Purwo said, adding that in providing telecommunications facilities, specifically telephones, Perumtel tended to apply the production sharing system in cooperation with both domestic and foreign companies.

The six telecommunications companies, in a five-year project, would build two million telephone connections, Purwo said. They would provide the funds whereas the network would be arranged in line with the one operated by Perumtel, he added.

Perumtel, under the production sharing system, currently cooperates with five national private companies.

Private Firm-Government Venture: TV Program with Ads

BK1408100390 Jakarta KOMPAS in Indonesian 1 Aug 90 p 1

[Excerpt] Jakarta, KOMPAS—President Suharto has approved a joint venture between a private company, the

TVRI [Television of the Republic of Indonesia], and the Department of Education and Culture to operate a special television program for educational purposes that will also have commercials.

Speaking to newsmen after meeting with the head of state at the Bina Graha Presidential Office on Tuesday [31 July] morning, Information Minister Harmoko said he was not ready to reveal the name of the private company. "It will be officially announced after the signing of the joint venture agreement," he said.

The joint venture to operate the educational television program will be launched this month. The minister said that in addition to improving the quality of the people in general, the program is also aimed at making use of the Palapa satellite, several transponders of which have been leased by the TVRI.

The TVRI is now leasing the transponders for 24 hours, but is using them for 8-9 hours only. The special educational program may be aired 3-4 hours in the daytime. All possible options are now being studied. The minister said: "Obviously, the program will last more than 20-30 minutes." However, he did not mention the possibility of creating a new television channel. [passage omitted]

Education TV Agreement Signed; To Start 1991

BK1608131690 Jakarta Domestic Service in Indonesian 1200 GMT 16 Aug 90

[Text] A joint venture agreement on the broadcast of educational television program through the TVRI [Television of Republic of Indonesia] was signed in Jakarta today by TVRI Director Ishadi and Mrs. Siti Hardiyanti Rukmana, director of the Indonesian Education Television Company Limited. Information Minister Harmoko, who was present at the signing ceremony, said the move constitutes a concrete action to promote education.

Speaking on the same occasion, Education and Culture Minister Fuad Hassan said the educational television programs, expected to reach remote areas, will fill the gap for regions which have not been able to receive ordinary television programs. The programs are scheduled to start in 1991.

JAPAN

KDD, MCI, BT To Start Corporate Telecom Network Service

OW2708170290 Tokyo KYODO in English 1449 GMT 27 Aug 90

[Text] Tokyo, Aug. 27 KYODO—Kokusai Denshin Denwa Co. (KDD) has started operating a joint corporate telecommunications network service with MCI Telecommunications Corp. of the United States and British Telecom (BT), KDD announced Monday.

Port-plan network was developed under an agreement reached by the telecom firms in February 1990.

Kyowa Bank is the first Japanese customer to use the new service, having just completed its own international telecom network.

KDD will use international circuits to link its port-plan systems in Tokyo and Osaka with MCI's system in Piscataway, New Jersey, and BT's system in London.

Subscribers will be able to use save time and money by using the circuits in data, voice, facsimile or character communications.

The new 64-kilobit digital communications network between Japan's head office and the U.S., Britain, Hong Kong, and Singapore should help cut costs by about 30 percent, KDD officials said.

SOUTH KOREA

Iran, ROK Agree on Communications Cooperation

SK2208090890 Seoul YONHAP in English 0900 GMT 22 Aug 90

[Text] Seoul, Aug. 22 (OANA-YONHAP)—South Korea and Iran exchanged a memorandum of understanding on forming a Cooperation Committee for Post and Telecommunications Development (CCPTD) and promoting Korean participation in Iranian telecommunications projects on Wednesday.

Communications Ministers Yi U-chae of Korea and S. M. Gharazi of Iran signed the memorandum at the Korean Ministry.

Under the memorandum, Korea will cooperate in postal and telecommunications reconstruction projects while Iran will buy Korean telecommunications gear, such as optical cable and time division exchanges, a high-tech electronic switching system.

Korea will dispatch specialists to Iran to provide support for telecommunications development and train Iranian specialists.

The two nations agreed to decide details of the CCPTD, such as organization, in future negotiations, a ministry spokesman said.

Korea has sold Iran 140 million U.S. dollar worth of optical cable and sales to the nation are expected to extend to telephone switching equipment and telephone sets, the spokesman said.

Daewoo To Sell Mongolia Telephone, Radio Equipment

SK2908011890 Seoul YONHAP in English 0035 GMT 29 Aug 90

[Text] Seoul, Aug. 29 (OANA-YONHAP)—Daewoo Corp. of South Korea will sell 30 million U.S. dollar's worth of digital switching equipment, fiber optics and

broadcasting equipment to Mongolia, a company spokesman said Wednesday.

Daewoo officials reached an agreement with the Mongolian Government in Ulaanbaator on Aug. 23 and the contract will be formally signed in late September or early October, when Mongolian representatives come to Seoul, he said.

The deal comprises a 69,000-line time division exchange (TDX), installation of a 120-channel fiber optic network stretching 60 kilometers between Ulaanbaator and dzunmod and construction of radio and television systems.

A second group of Daewoo officials will visit Mongolia in mid-September to work out details, the spokesman said.

Daewoo's exports to the Asian country have grown in recent years, including 1.2 million dollars in contracts between January and June for disposable syringes, batteries and sewing machines.

Daewoo heads the Mongolian committee of the international Private Economic Council of Korea.

South Korea and Mongolia established diplomatic ties on March 26.

LAOS

Telecommunications Agreement Signed With Vietnam

BK1708131890 Vientiane KPL in English 0908 GMT 17 Aug 90

[Text] Vientiane, August 18 (KPL)—The telecommunications companies of Laos and Vietnam signed on August 15 in Vientiane a cooperation agreement on telecommunications.

The agreement provides that the two companies will jointly open a telephone contact channel via satellite between Vientiane, Hanoi and Ho Chi Min. in addition, the Vietnamese accepts [word indistinct] aid for each construction work in the planned project of the Lao telecommunications company and will help train in Hanoi and Ho Chi Minh 10 Lao technicians. The training fields cover applied computer, application of vista machine, teleprinter (?electronic) telephone, [word indistinct] and management methods.

This agreement is based on a cooperation document concluded in April this year between a Lao ministerial delegation on communications, transport, post and construction and Vietnamese department of telecommunications.

MALAYSIA

Minister Says Foreigners Can Buy Telekom Shares

*BK1808091490 Kuala Lumpur BERNAMA in English
0800 GMT 17 Aug 90*

[Text] Kuala Lumpur, Aug 17 (OANA/BERNAMA)—The government has decided to sell a portion of the equity of the privatized telecoms company, Syarikat Telekom Malaysia, to foreign investors, Deputy Prime Minister Ghafar Baba said Friday.

He said the shares would be sold at a price higher than what Malaysians will have to pay.

The percentage of the shares to be allocated for the foreigners and the selling price would be determined by the Finance Ministry, he said at the launching of a new logo for the company.

Ghafar told reporters later that the percentage of the shares and the sale price for foreigners would be announced when Telekom Malaysia was to be listed on the Kuala Lumpur Stock Exchange.

Energy, Telecommunications and Posts Minister S. Samy Vellu announced recently that the cabinet had decided to sell 100 million shares or five percent of the total two billion shares to the staff of Telekom Malaysia.

He had also said that 15 percent of the equity would be sold to Permodalan Nasional Berhad (a state-owned fund manager), a Bumiputera (ethnic Malay) financial institutions and the public.

The remaining 80 percent would be held by the government.

Ghafar said that since it was corporatised in 1987, the profits of Telekom Malaysia rose from M\$4.9 million (US\$1= M\$2.7) in that year to M\$180.4 million in 1988 and to more than M\$360 million last year.

He also said that Telekom Malaysia now had almost 1.4 million clients, which reflected a ratio of eight persons for every 100 members of the population.

The annual increase in the demand for telephones was 17.4 percent.

MONGOLIA

MPR Acquires Reliable Communications Systems

*LD3008132990 Moscow TASS International Service
in Russian 0732 GMT 30 Aug 90*

[By TASS correspondent Kim Boldokhonov]

[Excerpts] Ulaanbaatar, 30 Aug (TASS)—The "Asiasat" automatic satellite communication station will provide the Mongolian capital with 24-hour telephone, fax, and telex communication with 195 countries of the world. It

began operating via a satellite launched by China at the beginning of April. [passage omitted] The "Intersputnik" system, the services of which the Mongolian People's Republic [MPR] has enjoyed until now, was limited to the socialist countries.

The Mongolian Ministry of Communications, together with the British firm "Cable and Wireless", undertook to fill this gap. The partners agreed to ensure reliable communication for Ulaanbaatar, UNEN reported.

Preparatory work is now being carried out to link Mongolia to a third, and the largest, system of international space communication. On completion of this program, the MPR will have reliable communication with all other countries.

SOLOMON ISLANDS

S. Pacific News Service Moves to Solomon Islands

*BK1408103190 Melbourne Overseas Service in English
0500 GMT 14 Aug 90*

[Text] The South Pacific news service, PAC News, has decided to make a new permanent home in the Solomon Islands. Its associated broadcast training organization, PAC Board, and its parent body, the Pacific Island Broadcasting Association, or PIBA, will move to the Vanuatu capital, Port Vila.

Radio Australia's South Pacific correspondent, Jemimah Gareth, says the move follows PAC News' forced departure from Fiji in May after the Fiji Government expelled key PAC News staff. Since then all three organizations have been given temporary accommodation in Auckland by Radio New Zealand.

The decision on a permanent home was made by the PIBA General Assembly in Port Vila. PIBA Chairman Mr. (Kabake Fusimaloi) from Tonga said the decision in favor of the Solomons and Vanuatu had been based on telecommunications and air transport costs. Offers were also made by Papua New Guinea, Niue, and the Marshall Islands.

Mr. (Fusimaloi) said he hoped PIBA; the Vanuatu and Solomons Governments; and the (FBS), the West German aid agency, which funds PAC News and PAC Board, will be able to come to an agreement on arrangements for the move by the end of September.

The PIBA General Assembly also agreed to offer associate membership of PIBA to nongovernment radio stations including Fiji's FM-96 and Norfolk Island radio. Mr. (Fusimaloi) said the benefits of associate membership would be worked out by the PIBA Board.

TAIWAN

Taiwan To Deploy Satellite Despite U.S. Opposition

*OW1408145590 Taipei CHINA POST in English
8 Aug 90 p 12*

[Text] She Han-min, chairman of the National Science Council, (NSC) said Monday that the United States does not wish to see a satellite launched from Taiwan by the Republic of China [ROC] government.

Returning from the United States and Europe after seeking cooperation with research institutes to launch the country's first satellite, Sha said that the American government has expressed its concern over the ROC's satellite plan.

The chairman said that he told U.S. government officials that the satellite plan only aims to foster talent in satellite technology, upgrade its industry and help boost related research.

The ROC would use a satellite to conduct research on weather, geography and for environmental protection, according to Sha.

The U.S. government stressed that all satellites should conform to international standards of not exceeding 500 kilograms in weight and 300 kilometers in orbiting altitude.

The NSC plans to spend NT\$100 million to launch a 100-kilogram satellite to an altitude of 300 kilometers within the next five years.

Sha's visit to other countries however seemed more encouraging than compared to the United States.

An official satellite research center in Japan has agreed to cooperate with the ROC in developing its satellite industry.

The NSC said that it will send its staff to Japan to work with experienced researchers in the center.

Another satellite company in West Germany, which has more than 20 years of experience in space science, is also considering a technology transfer with Taiwan.

Despite American authorities' attitude, Johns Hopkins University agreed to participate in satellite loading research, Sha said.

Meanwhile Legislator Lin Cheng-chich suggested that the government consider paying mainland China to help deploy the country's first satellite.

He said that the communist regime is quite advanced in its satellite development, and it "will have a direct benefit if we can obtain its (mainland China's) assistance."

Hu Chin-biao, a director at the NSC, said that the NSC cannot decide the issue alone, saying that such a decision involves the ROC government's policies toward its rival regime.

However the NSC will still welcome "other technical sources," Hu said.

Hu, responsible for the space laboratory to be set up soon in the NSC, will fly to the United States in September to recruit some 150 specialists in space science to work for the lab.

GERMAN DEMOCRATIC REPUBLIC

East Berlin Radios to Cease Broadcasting

LD1408085590 East Berlin Deutschlandsender Network in German 0800 GMT 14 Aug 90

[Text] The end of Radio Aktuell, Berliner Rundfunk, and Deutschlandsender has been decided. The manager of Leipzig's Sachsenradio, Mueller, today confirmed by telephone that this has been decided by the Land managers in agreement with the general managers. Berliner Rundfunk will be the first to stop broadcasting to the whole country from 1 October. The frequencies that will thus become free will then be available to the Land broadcasting stations. The same applies to the frequencies of Radio Aktuell, which will stop broadcasting operations on 15 October. Deutschlandsender is also affected. Its frequencies form the basis for a future so-called framework program [mantelprogramm] into which, for instance, Sachsen 4 could be included.

POLAND

New Telecommunications Network Introduced

AU2108152090 Warsaw RZECZPSOPOLITA (Economy and Law Supplement p II) in Polish 16 Aug 90

[Interview with Stanislaw Szuder, deputy minister for communications, by Krzysztof Szczesniak; date and place not given: "For the Time Being Its 'Komertel'—The Telephone Network Revives"]

[Text] [Szczesniak] Minister, rumor has it that any day now Western businessmen will stop complaining about the Polish telephone system....

[Szuder] If they do not stop altogether, at least they will have less to complain about. On 20 August 1990, we plan to inaugurate the "Komertel" telephone network in Warsaw. It will serve some 2,000 subscribers.

[Szczesniak] How many people have applied to join?

[Szuder] Some 1,000. Subscribers to this telephone network will be able to automatically dial all the countries that one can reach by telephone link from Western Europe.

[Szczesniak] Naturally, such a service must be very expensive.

[Szuder] Everything that is good tends to cost a lot. A standard connection to the "Komertel" system will cost some 10 million zlotys [Z], but periodic connections will also be possible, for example, a seven-day connection will cost some one million zlotys. This might be a good option for a visiting businessman who comes here for say seven days and needs to keep in constant touch with his company back home. The monthly subscription charge will be Z700,000 and every telephone call will be charged at the applicable rates in force.

[Szczesniak] Until one day the telephone goes dead, but the bill will still have to be paid, as is the practice here in Poland.

[Szuder] For "Komertel" it will be totally different. If the telephone stops working for over 24 hours the post office will at no extra cost assume responsibility for the receipt of all communications coming from abroad and convey them to the unlucky subscriber in some other way. For every day that the telephone is out of action, the monthly subscription bill will be reduced by one thirtieth.

[Szczesniak] I fear that very soon all the 2,000 possible subscriptions will be filled and one will have to think about introducing "Komertel II."

[Szuder] "Komertel" is a provisional solution. For the long term, we are pinning our hopes on the new international exchange in Warsaw. Work has already begun and will continue until the end of this year. The exchange will continue to be expanded during the first quarter of 1991 and it is intended that it will provide some 3,500 international exchange lines; at present we only have 1,600.

[Szczesniak] But this is still inadequate.

[Szuder] That is why we have decided to build another international exchange in Katowice with a projected capacity of another 2,500 international lines. At the moment, we are considering tenders for equipment and finance. In 1991, we would like to see it in operation.

[Szczesniak] And only then one can speak of meeting the demand.

[Szuder] I think so too, although for strategic reasons we could do with another international exchange somewhere in north-west Poland. Proposals are already under consideration, because it makes no sense, for example, to link Szczecin with the international exchange in Warsaw. However, this is for the future.

[Szczesniak] Are we talking of Western technology exchanges?

[Szuder] Of course. The recent easing of COCOM restrictions will make their import and installation possible, especially for the equipment and programming of the so-called Number Seven Signalization, which is an essential prerequisite if we want to introduce integrated communication systems, namely, the possibility of simultaneously transmitting sound, picture, and data. Independent of this, we have already had COCOM permission for the establishment of digital radio links. Instead of laying an earth cable, which takes a long time, one simply constructs two towers and sets up a link between inter-city telephone exchanges.

[Szczesniak] Please excuse me, but all this talk of radio lines, cell-nets, and digital exchanges, and so on, does not answer the principal question: Where is the overall logic or master plan?

[Szuder] There is one, I assure you. We are introducing new technology to Poland working from the top downwards. It means that we first build a new international exchange in Warsaw. The next step will be to build an inter-city exchange in Warsaw, as well as other in cities. At the moment, this is still the theoretical phase, because we still do not know who will build these. We are evaluating various tenders that have been submitted, but we would like to be in a position to commission such an exchange in Warsaw in 1991. Then, there is the third stage, namely, transit exchanges. Warsaw has to have eight of these and they will be built by the Spanish Alcatel company, among others. The finance will come from the Spanish government through the provision of low interest commercial credits. These exchanges will gradually come into service; the last one is scheduled for 1992. We are at the stage of signing contracts for these.

[Szczesniak] This will solve the problem of telephones in Warsaw in 1991 or 1992, but what about the rest of the country?

[Szuder] The improvement will begin to be noticed from 1991 onwards, although we have received many offers from countries that want to construct a telephone network, for example, on the scale of say one voivodship at a time. They are offering attractive financial terms and we intend to take full advantage of these possibilities.

[Szczesniak] As regards telecommunications, what is our present debt?

[Szuder] At the moment, it is a relatively small sum; some \$78 million, but new contracts are being signed all the time. Among other ongoing negotiations, we are also talking to the World Bank for the provision of finance for constructing inter-city exchanges and digital radio links. We are also exploring the possibilities of constructing a receiving station and linking into the Eutelsat. This would give us the capability of a satellite link with Western Europe. There are so many things that are being considered that it is impossible for me to name them all.

[Szczesniak] I do not know whether you agree with me, but it seems paradoxical that our trade relations with foreign partners seem to be going better than the attempts at solving our telecommunication problem.

[Szuder] Am I right in assuming that you are thinking about the proposed telecommunications legislation?

[Szczesniak] Exactly.

[Szuder] I hope that this legislation will be passed before the end of this year. Apart from the question of demonopolization of telecommunications, the legislation also foresees privatization of radio and television broadcasting. Without this legislation there is no possibility of establishing new radio and television stations. I cannot imagine elections to the Sejm and the presidency under the present broadcasting legislation and information systems monopoly. Only this issue can spur the Sejm to

produce the new legislation, and this legislation will also make it possible to abandon the present system of official prices and take our telecommunications into the area of self-financing.

Warsaw TV Services Seen in Jeopardy

*LD2308121390 Warsaw Domestic Service in Polish
0430 GMT 23 Aug 90*

[Text] GAZETA STOLECZNA writes: It can't be ruled out that before long, Warsaw will be without television. John Kowalczyk, a U.S. businessman of Polish descent, is to become the owner of the Palace of Culture. The American and the municipal authorities have already signed a letter of intent in this regard. At present, lessees pay 100,000 zloties per square metre of palace floor-space, but the new owner is bound to demand a lot more. This means that some of those who have been using the palace up to now will have to find new premises. The Television Transmissions Center finds itself in the worst predicament. Contrary to the majority of European capitals, Warsaw has no radio and television tower. Thus, the center will either have to pay what Mr Kowalczyk demands, or we will be without television. The construction of a television tower requires permission from as many as 15 institutions—Sanepid, the self-government and so forth—in spite of the fact that a site has already been secured. For the moment, none of them have approved this project.

Work of Radio Solidarity Examined

*AU1908173390 Warsaw RZECZPOSPOLITA in Polish
13 Aug 90 p 2*

[Waldemar Moszenda report: "Radio Solidarity Still Underground"]

[Text] It is contained within three rooms and a corridor in a building on Konwiktorska Street, but one of these rooms serves as a studio. The accommodation and casual atmosphere are rather like that of GAZETA WYBORCZA, but there are fewer employees. Only twenty-odd people put out 13 hours of air time, from 1300 to 0200. This is Radio "Solidarity," the first local radio station in Poland.

Being local does not mean that it can only be picked up in Warsaw. The Raszyn transmitter has a range of 50 km with a medium-strength signal, but the range is further if the weather is good. In fact, half of Warsaw Voivodship can receive Radio "Solidarity."

How does it survive? Its twenty-odd staffers are working for money, though not yet on a full-time basis, and the creation and broadcasting of programs also costs money. The original idea of living off commercials like any other commercial station is feasible provided that there are enough listeners. For the time being, the station is financed from a fund consisting of money sent from Great Britain. "We are financed from several sources,"

says Grzegorz Kalinowski, one of the speakers, though he warns that his knowledge of the matter is limited.

Generally, this is not a typical station. Already in the beginning it was decided to "reject known patterns and well-trodden paths in order to achieve a new quality." The Radio "Solidarity" company is headed by a supervisory board, chaired by Jolanta Wisniewska (who worked for the station while it was still underground). The practical work of the station is managed by Jerzy Ferner, the only professional there, although most of the staff was trained by Polish Radio. The entire program is live, nothing is recorded. "Of course, we do know how to use recorded material if we want to," boasts Grzegorz Kalinowski. But that does not alter the fact that 70-80 percent of the output consists of music. A broadcaster sitting in a studio has to have an idea which he "launches into the ether," and waits for listeners to phone in. Before this, he sends reporters into the streets, who bring back material related to the idea—the essence of the program.

For five minutes in every hour, the station broadcasts its own news bulletin, based mainly on PAP (as well as its own sources if the subject is local news). As yet, no arrangements have been made for Warsaw institutions to telephone of their own accord and ask to have information broadcasted. But that is just a question of time. For example, Radio "Solidarity" is the only station capable of reporting on traffic jams in the streets of Warsaw, therefore this should be something of interest to people, in this case the police.

We believe that about 150,000 people listen to Radio "Solidarity." The employees maintain that the station is politically neutral. Zbigniew Bujak has appeared before the microphone to discuss the Citizens Movement-Democratic Action [ROAD], but before that, the radio reported on the Center Accord. No one knows what the station will be like in future, but for the time being, the proportions seem to be balanced, even though Wojciech Stawiszynski, one of the station's most distinguished founders, is also a founder-member of ROAD.

But the most interesting thing is that even though Radio "Solidarity" is today fulfilling a firmly positive role, it is still illegal. The new Radiophony Act has not yet been passed, and the old Act punishes this kind of activity with prison. Well, perhaps Radio "Solidarity" ought to be illegal?

Seminar Presents Communications Satellite VSAT to Polish Market

*90WT0123A Warsaw RZECZPOSPOLITA in Polish
15 Jun 90 p 2*

[Article by Makler-Ol: "Via Satellite"]

[Text] The VSAT satellite communications system has become a hit in many countries of the world in recent years. It enables its users to transmit data, images, and sound in a way that, for the time being, is unattainable

for conventional cable communications. By comparison with it [cable], VSAT is three times faster and the chances of the transmitted information being distorted is 10 times smaller.

The VSAT telecommunications system was recently presented to Poland. Hughes Network Systems International, an American company that is the creator of this system, wanted to interest those who must have immediate exchange of information: LOT [Polish Air Lines]; GUS [Central Office of Statistics]; the Bank of Commerce, Incorporated; PP [State Enterprise] "Orbis"; the Food Industry Bank and, of course, the Ministry of Communications.

At the seminar, at which the advantages of this system were presented, the promoter of VSAT in Poland and owner of the American-based MATRIX consulting firm, Mr. Larry D. Beam, said, among other things: "By creating an efficient communications system for Poland, we are also creating one for Western investors. Capital does not recognize any boundaries and thrives wherever appropriate conditions are created for it. An efficient communications system remains one of the basic conditions for conducting business of any kind. Unfortunately, in this respect, Poland belongs to the countries stricken with natural disaster."

YUGOSLAVIA

Croat Ministry for Information on Frequency's Withdrawal

Official Statement

*LD1308174990 Belgrade TANJUG Domestic Service
in Serbo-Croatian 1454 GMT 13 Aug 90*

[Text] Zagreb, 13 Aug (TANJUG)—The Croat Ministry for Information today officially announced that the frequency for transmitting television programs on the 39th channel via the Ucka transmitter is being taken away from the local Istrian radio and television stationed in Pula. Likewise, the legal grounds for the further work of this radio and television station are being removed.

Here is the official statement of the Croat Ministry for Information:

"The attempt made by the federal administration for radio communications to willfully take away the right of Croat radio and television to transmit its third television channel on the 39th channel via Ucka transmitter and, furthermore, to grant the same right to Istrian radio and television, despite a negative view voiced by the republican Ministry for Transport and Communications, is yet another example of disregard for the Croat sovereignty.

"Frequencies are national goods and, as such, are in the sole possession of national assemblies. Any encroachment upon the authority of the Croat Assembly, like the one committed by the federal administration for radio communications, is inadmissible. The law on Croat

radio and television explicitly states that all three television networks are of importance for the republic, from which it follows without any doubt that only the assembly of the Croat Republic can be in charge of them.

"Regarding six programs of Istrian radio and television, registered with the Croat Ministry for Information just before the change of power, it was established that their registration was illegal because it did not meet conditions laid down in articles 55 and 73 of the law on the public information. Hence, Istrian radio and television has no legal basis for its further work.

"Aware of the need to develop radio communications outside the system of Croat radio and television, the Ministries for Information and for Transport and Communications are preparing changes to the laws on information and on telecommunications, which will provide

legal conditions for the use of free radio and television channels", the statement concludes.

Istrian Radio, TV Director Says Broadcast Legal

*LD1408005790 Belgrade TANJUG Domestic Service
in Serbo-Croatian 2156 GMT 13 Aug 90*

[Excerpt] Pula, 13 Aug (TANJUG)—We have the required permission to broadcast television programs. Therefore, today's statement made by the Croat Ministry for Information claiming, among other things, that there is no legal basis for our work, took us by surprise. This was stated this evening in a phone-in program on Istrian Radio and Television by Bogoslav Petean, director of this independent Radio and Television station, from Pula, which has been broadcasting its programs for the past three months. [passage omitted]

BRAZIL

EMBRATEL Purchases Two Communications Satellites

*PY3008142090 Brasilia Domestic Service in Portuguese
2200 GMT 29 Aug 90*

[Text] EMBRATEL [Brazilian Telecommunications Company] signed a contract in Rio de Janeiro today for the purchase of two second generation domestic satellites.

The satellites will guarantee communication services until the year 2006. The contract was signed with the consortium made up of Promon Engineering and Hughes Aircraft. The contract is worth \$175 million. The next step will be to establish the financial terms, to obtain the import license, and to determine the date on which the project will start.

With the purchase of the two second generation domestic satellites Brazil will guarantee the continuation of satellite communication services for television, telephone, and data transmission until the year 2006. The construction of the second generation satellites will begin four months after the necessary arrangement among the parties are made.

Brasilsat B1, which will replace Brasilsat A1, will be placed in orbit in April 1994 and Brasilsat B2, which will replace A2, will be placed in orbit in October 1994. The advantages of the Brasilsats B1 and B2 include the improvement of their signals, their greater lifespan, and the reduced cost of the associated parabolic antennas. Their lifespan will be about 12 years as compared to eight to 10 years for the A1 and A2.

Satellite To Aid Sao Paulo State Forest Conservation

*PY2508010490 Brasilia Domestic Service in Portuguese
2200 GMT 24 Aug 90*

[Text] Sao Paulo State will have a program for the permanent observation of vegetation by satellite. The program will be known as Green Eye, and will be implemented this coming Monday, 27 August, by the Environment Secretariat.

Observation of vegetation in the Sao Paulo territory will be conducted by the Landsat 5 satellite. The Green Eye program will prevent the destruction of native vegetation and make it possible to spot illegal land clearing. The information collected by the satellite will be transmitted to regional units of the Environment Secretariat and the Forestry Police, who are responsible for enforcing conservation laws.

CHILE

Chilesat Opens Digital Communications Network

*PY1608220890 Santiago Radio Chilena Network
in Spanish 1700 GMT 16 Aug 90*

[Summary] Chilesat, a new Chilean company, has opened an extensive, long-distance, national and international satellite digital communications network. The system uses Intelsat for its communications and covers 95 percent of the national territory with 14 earth stations. The base station is located in Lo Canas. Chilesat lists several companies among its clients and also a branch of the Chilean Armed Forces.

CUBA

PRENSA LATINA, Albania's ATA Sign Cooperation Agreement

*FL1508010090 Havana Television Service in Spanish
0000 GMT 15 Aug 90*

[Text] The top executives of Albania's ATA [Albanian Telegraph News Agency] and Cuba's PRENSA LATINA news agencies signed today in this capital the first cooperation agreement for the exchange of written, radio, graphic, and television information. Taqo Zoto and Pedro Margolles, general directors of Albania's ATA and PRENSA LATINA, respectively, signed the document in this capital. Clirim Cepani, Albanian ambassador to Cuba, and officials from the two press agencies attended the ceremony.

Telecommunication Station Inaugurated in Havana

*PA2908232390 Havana International Service
in Spanish 0000 GMT 14 Aug 90*

[Commentary by Isis Maria Ayen]

[Text] Hello friends. A satellite telecommunication land station has been inaugurated in Havana. It will allow us to reach approximately a hundred countries. The new station has been assigned to tourism, the diplomatic corps, and commercial firms and agencies. The station was manufactured in Italy and features a modern digital system with 24 telephone channels and approximately 200 trunk lines. The station was installed with the cooperation of ITALCABLE [not further expanded] and is the second station of its type to be installed in Cuba. A similar station is already operating in Varadero and others will be installed in Cayo Largo, Holguin, and Santiago de Cuba in October. Cuban Communication Minister Manuel Castillo Rebasa has stated that the new station will increase the number of channels available to the general public.

[Begin recording] [Castillo] The station will make more lines available to tourists and will also release the lines previously used by this sector to the general public. The

new station will ease the congestion of telecommunication lines and our citizens will be able to communicate quicker with foreign countries. [end recording]

Cuban and Italian technicians installed the new station in only 45 days. This is my report for today. Thank you for your attention.

HAITI

Radio Soleil Sister Station Inaugurated

FL2008174890 Port-au-Prince Radio Soleil Network in Creole 1100 GMT 20 Aug 90

[Excerpts] The extended family of the media is growing daily in Haiti. In particular, the network of Catholic radios is progressing, with the inauguration of RTA, which is Radio Tet Ansanm, Radio Soleil's little sister in the diocese of Jeremie.

Monsignor Willy Romelus, bishop of Jeremie, presided over the inauguration ceremony Saturday evening, amidst many priests and the faithful. [passage omitted]

Radio Soleil relayed this ceremony live on Saturday evening, for all Haiti's Christians. [passage omitted]

Thus, Radio Tet Ansanm has just opened. It operates on 3 kilowatts. It is powerful enough to cover the entire Department of the Grande Anse, and can even reach a

number of other points in other geographical departments of Haiti. The Grande Anse's radio, however, is not yet operating at full capacity. It is, for the time being, operating intermittently. It is operative for some 2 to 5 hours per day, depending on the circumstances, depending on the moment. For the time being, however, we are sure that Radio Tet Ansanm is, if electric power is not out in Jeremie at present, relaying Radio Soleil's newscast live for the population of the Grande Anse. [passage omitted]

PERU

Peruana Reports 3 Sep Broadcast, Equipment Changes

PY2508164890 Lima Television Peruana in Spanish 0100 GMT 25 Aug 90

[Text] Lima Television Peruana Channel 7 informs its national audience that, beginning 3 September, it will end its transmissions at 0030. This measure will allow a reorganization of broadcast times and a technical reevaluation of equipment with the objective of improving the quality and variety of the casts, obtaining better audio and visual signals, and increasing transmission capacities via microwave, satellite, and panamsat.

Therefore, my friends, our programming will end at 0030 on 3 September.

ISLAMIC AFFAIRS

MENA Says New Radio Starts Broadcasting

NC1508171690 Cairo MENA in Arabic 1440 GMT
15 Aug 90

[Text] Cairo, 15 Aug (MENA)—The transmission of an Arab radio station began on a medium wavelength of 271 meters today. The radio station broadcast Egyptian, Moroccan, Syrian, and Kuwaiti songs.

It has not been determined yet if this radio will be the prelude to a radio station that would represent the free people of Iraq or would represent the Kuwaiti people. It has also not been determined if the site of the new radio station is the Arab region or Cyprus.

It is known that Iraq has allocated more than 50 medium and short wave frequencies to jam the Voice of the Arabs, Cairo Domestic, and the The Middle East Radio, and also the Saudi Arabian and the United Arab Emirates radios.

ALGERIA

Fiber Optic Lines Installed in Tamanrasset

90WT0134A Algiers EL MOUDJAHID in French
12 Jun 90 p 5

[Article from ALGERIE PRESSE SERVICE: "Posts and Telecommunications: Fiber Optic Cable Connection in the Far South"]

[Text] The posts and telecommunications sector in the department of Tamanrasset took center stage Sunday and yesterday during the inspection and working tour of Mr. Hamid Sidi Said, the minister of posts and telecommunications.

Upon his arrival at the Tamanrasset airport, the minister, who was accompanied by his top aides, was welcomed by the governor, then traveled on to the commune of In-Amguel, 130 km distant from the department capital. En route the minister and his delegation stopped in Tit to find out how far work had advanced on installing the fiber optic cable linking Tamanrasset with In-Salah.

This visit by Mr. Hamid Sidi permitted the delivery of the first 130 km stretch of the 650 km covered by the project. Throughout his tour of the department the minister expressed his satisfaction with the effort mounted to develop this sector with the assistance of the local authorities and as part of a program to improve communications.

The project to install the fiber optic cable will thus help improve the telecommunications network, radio and television broadcasts, and the telex network, which is constantly developing. In view of the completion rate on the project, estimated to be 67 percent, the minister stressed to contractors that the delivery deadline set for

the first quarter of next year must be adhered to. During his visit it was noted that 1991 will be the year in which ground stations will be installed to cover distant towns, the equipment at the ground station in Tamanrasset will be updated, and a new 3,000-line telephone switchboard in the department capital will be put into service. On several occasions the minister stressed to his aides that these projects must be completed as soon as possible.

The department of Tamanrasset and in particular its capital city has outstanding orders thought to number about 4,000, but these, according to the head of posts and telecommunications for the department, will be filled by the first of the new year.

Explaining the importance of the current project, this same administrator told ALGERIE PRESSE SERVICE that once it has been completed and put into service, the fiber optic connection will make it possible to solve the communications problem once and for all and add new circuits. So the commune of In-Amguel will soon see new switchboard equipment installed, and this will allow for an increase in the number of subscribers.

INDIA

Draft Telecom Policy Circulated at Delhi Conference

90WD0573 Madras THE HINDU in English
5 Jul 90 p 7

[Text] New Delhi, 4 July—A new draft National Telecom Policy has been finalised by the Department of Telecommunications (DOT) which reiterates the government's commitment to indigenous technology and provide access to telecom facilities to all sections of society at affordable cost and within a reasonable time frame. However, in the same breath it has also observed that the government would not shut itself out from the international markets, technologies and products to upgrade the quality, reliability and cost effectiveness of services provided at home.

The draft policy, circulated at a 2-day conference of the heads of Telecom Circles which concluded here on Tuesday, detailed a 10-point thrust area for the development of telecom sector in India. The conference was inaugurated by the Chairman of the Telecom Commission, Mr Sam Pitroda and the valedictory address was delivered by the Minister of State for Communications, Mr Janeshwar Mishra. Besides aiming at providing nationwide telecommunication service at affordable cost and increased access to the public network both in urban and rural areas including hilly, tribal and remote places, the policy has also called for liberalisation of licensing policies governing production of telecom equipment, promotion of indigenous research and development and modernisation of national telegraph network.

While encouragement would be given to increase the production of telecom equipment to meet the rising

demand, induction of state of art technology, such as digital switching and transmission for improved quality and provision of new services such as data communication, mobile communication, video transmission and voice mail to customers especially in commercial and industrial sectors would also receive special attention.

Access and international telecommunications were the two specific objectives the policy sought to achieve. Apart from expanding the telecom service within a reasonable time-frame to all those who required exclusive access to the network, pay phone facilities in urban and rural areas would also be enhanced. Access to global networks will be considerably strengthened to support international trade, commerce and tourism. A country-wide integrated telecommunication network will be provided deploying modern digital switching and transmission equipment enabling provision of new services in a cost effective manner. Evolution from the present analogue telephone network to integrated digital network and ultimately to integrated services digital network would be achieved in a phased manner.

Telephone In Every Panchayat

While there would be special focus on provision of telephone in every panchayat and ultimately in every village, specific needs for sophisticated services like electronic mail, computer communications, interactive video and other telematic services like audio/video conferencing and facsimile of the business and industrial users will also be met within a reasonable time. Production infrastructure in the country will be strengthened and expanded to meet the needs of telecommunication services from indigenous sources to the maximum extent and in this context, the draft telecom policy has stated that self-reliance in technology will be given all encouragement. The existing telecom factories under the DOT would be modernised to produce high quality equipment at competitive prices. Cost reduction will continue to remain the guiding goal in all areas of telecom services.

The stated objectives, according to the draft would be achieved through a combination of policy initiatives which include a new regulatory mechanism, commercial and tariff policy, technology development with special emphasis on indigenous technology, new production methods besides financial and international policy. Under the regulatory policy, in so far as telecom infrastructure related to common network was concerned, it would be established and managed by the DOT. Approved types of subscriber-end terminals and public phones may be allowed to be supplied, installed and managed by the end-user through any agency of his choice. The government may also permit an organisation to be set up for operating dedicated and specialised telecommunication facilities or networks which cannot be made available to the users in a desired time-frame.

The telecommunication services was proposed to be run on a commercial basis ensuring adequate rate of return and generation of internal resources to finance a major

part of the expansion programme. It would permit sharing of certain services or facilities such as group PABXs or other similar facilities wherever desirable from the point of view of cost economy. While operating the telecom services on a commercial basis, the operating cost would be kept to the minimum. Investment decisions according to the draft policy would be based on least cost solutions over the life cycle of apparatus and plants using cost effective technologies and products consistent with the high quality and reliability of services.

Tariff Will Be Regulated

The tariff for telecommunications services shall be regulated taking into account aspects such as the cost of providing the services, opportunity costs, the benefits to the customer which would also ensure adequate returns to meet the major portion of the expansion programmes. These would be decided from time to time. In fixing the tariffs for individual categories of services, the paying ability of different classes of customers would also be kept in view and appropriate cross-subsidisation provided. However, under the head 'financial policy' the draft noted that as the telecom sector was highly capital intensive and as there was an urgent need to expand the services, it should generate adequate internal resources to meet a major portion of investment on expansion programmes and upgradation of services. To the extent necessary, the DOT would also resort to the capital market for borrowing funds through bonds and where necessary and expedient lease equipment.

Referring to technology policy, the draft said the government proposed to promote indigenous technology and would fully support the activities of the Centre for Development Telematics (C-DOT) and R&D units of public, joint and private sectors, universities and other technical institutions. While the telecom sector had potential for high rates of return, its foreign exchange earnings were marginal at present. Government, therefore planned to conserve foreign exchange through a high degree of self-reliance in regard to equipment and plants hardware and software used for establishing telecom infrastructure.

Standardisation

In regard to production policy, it was pointed out that substantial production base had been established for the manufacture of various types of equipment in the public, private and joint sector establishments respectively. It was proposed to consolidate this process and if necessary also licence additional capacities to cover the gap. While the policy has stressed the need for standardisation of products, telecommunication industries in the public sector under the DOT will be modernised and expanded to meet the major requirements of the department. To encourage competition in quality, price and delivery, other requirements will be met by supplies from State

corporations and other public and private sector units. In effect the policy has hinted at greater competition in equipment supply.

Applications for setting up new industries based on foreign collaborations would normally have to include a scheme for investment in in-house R&D and commitment to export. But at another place, the draft policy said while government was dedicated to self-reliance both in production and technology, it did not mean that the country would shut itself out from the international markets, technologies and products. It said the government proposed to adopt a pragmatic approach in this regard and import technologies, products and raw materials as the case may be dictated basically by a need for high quality, reliability and cost-effective solutions for national telecom network. At the same time the government proposed to encourage and promote export of indigenous technologies, products and services to earn valuable foreign exchange.

As regards human resource development, the productivity per employee currently at 75 employees per 1,000 telephones will be improved to reach a figure of about a 25 per 1,000 telephones by the turn of the century. While there will be no reduction of existing personnel, new intake would, however, be regulated to keep in line with the new policy objectives the draft noted.

Global Database Network Inaugurated in Madras

90WD0572 Madras *THE HINDU* in English
10 Jul 90 p 3

[Text] Madras, 9 July—"Easynet," an electronic network that connects Indian subscribers to international databases distributed all over the world, was inaugurated here today at Videsh Sanchar Nigam (Overseas Telecommunication Service Centre). Easynet is the gateway to knowledge banks situated in various parts of the world.

According to Videsh Sanchar Nigam Limited (VSNL), Madras, commercial databases are organised for collection and retrieval of information stored on a host computer. This information is drawn from books, magazines, symposia, indexes, encyclopaedias, patent records, professional journals, etc. Since this information is for sale, they are called commercial databases. Such databases can provide answers to questions, ferret out information that can help in striking a new business deal, stimulate new discoveries, help repair machinery etc. They also provide access to information on products, markets, commodity prices, new technologies, manufacturers' catalogues and currency fluctuations.

A Easynet user should have a personal computer, a telephone and should obtain a password from the VSNL at a fee of Rs. 3,000 a year.

Addressing a seminar on "Easynet—the knowledge gateway" on the occasion of the launching of Easynet in Madras, Mr S. Aravind, chairman and managing direction, ELCOT, emphasised the need to develop local

databases and network them. Such local databases would reflect the true situation in the country. He congratulated the VSNL for introducing Easynet in Madras. This would greatly improve information availability here. As the world was getting integrated economically, there was a need for getting information and so, access should be provided to it. He underlined the need to train people who knew about the working of databases. The VSNL could do this so that information could be retrieved quickly. Besides, it should keep the costs to a minimum so that more people would have access to information.

Mr Aravind wanted an effective telecommunication system developed in rural areas so that villages were linked to outside world. This would also help in decentralisation of industries.

The ELCOT had developed a single channel radio which helped link remote telephone connections with a telephone exchange through VHF. This eliminated the use of cables. For example, a private hotel in Covelong near Madras was connected with the telephone exchange at Nungambakkam in Madras. This obviated the need to make trunk-calls. The ELCOT was also trying to acquire the technology for TDMA (time division multiple access). This was a rural radio network, which could link 500 to 600 subscribers with a central telephone exchange, using the VHF, the ELCOT chairman said.

Mr P. Kandaiah, general manager, VSNL, Madras, said Easynet had its own databases and data-banks numbering more than 1,000. It would be introduced in Bangalore, Pune, Hyderabad, Bombay and Delhi in the course of this year.

He said an independent commission was set up by the International Telecommunication Union in 1983 to study the impact of telecommunications on socio-economic conditions of countries. The commission said that in the industrialised world, telecommunication was taken for granted as a key factor in economic, social and commercial activities, while the situation in developing countries was very different.

Telephones were scarce in the Third World which accounted for 80 percent of the world population. In fact, 20 percent of the world population enjoyed 90 percent of the telephone connections. Twenty-five percent of population in the Third World used 10 percent of the phones while 55 percent of the rural Third World had no telephones. In India, 25 percent of the population in the cities had 75 percent of the telephone connections. Out of an investment of \$60 billion on telecommunication in the world, only 8 percent was used for telecommunication in the Third World.

Mr Kandaiah said it had been established that a 1 percent rise in the number of telephone connections caused a 3 percent rise in per capita income. The Union Government, in the current Eighth Plan, had programmed to spend Rs 30,000 million for providing telephone facilities in the rural areas in the country.

PRC, Soviet TV Transmissions Received in Delhi*90WD0575 New Delhi PATRIOT in English
25 Jun 90 p 2*

[Text] Scientists monitoring long distance television transmission since 1976 have said that Delhi can directly receive programmes from TV stations as far away as the USSR, China and South-East Asian countries under certain conditions, reports PTI.

Anamolous long distance signals have been received in Delhi via ionospheric and tropospheric paths and sometimes due to artificial modification of ionosphere, according to scientists of the radio science division of the National Physical Laboratory in the Capital.

Ionosphere lies about 70 kms above earth surface and troposphere is a region between 10 and 20 and 20 kilometres of the atmosphere.

Reporting their findings in the journal of radio and space physics, they said the long distance signals were revived in Delhi on channels two, three and four of band one, and channel five of band three.

Most of the long distance receptions were observed around pre-monsoon months as the conditions are favourable for tropospheric propagation during these months, they said.

The scientists said that a high percentage of receptions was due to artificial modification of the ionosphere due to heating by high power short wave transmitters located in the path of the television signals.

They said the televisions signals from South Asian countries were received in Delhi due to artificial modification of ionosphere over the Bay of Bengal by some of the short wave transmitters located in Aligarh.

Radio, TV Transmissions in Punjab Strengthened*BK1808093890 Delhi Domestic Service in English
0830 GMT 18 Aug 90*

[Text] Radio and TV transmissions are being strengthened in Punjab, particularly in the border areas. Addressing newspaper editors in Jullundur today, the minister for information and broadcasting, Mr. P. Upendra, said two TV transmitters of 10 KW each at Amritsar and one at Fazilka would soon be completed. He said two FM local radio stations at Bhatinda and Patiala have already been commissioned. Mr. Upendra also said that 300 KW transmitter at Jullundur is being set up soon to replace the old one and the TV studio at Chandigarh would be ready in the next three years.

Appreciating the positive role played by the vernacular press under various pressures, the minister assured all possible help by the government. He said the government is committed to the freedom of the press and will continue to give concessions to small and medium newspapers. Mr. Upendra also said that the government is considering an increase of about 30 percent in the

advertisement rates being given to the newspapers. Editors of over a dozen vernacular newspapers of Jullundur participated in the discussion. The minister also talked to them individually about their problems.

The minister's visit to Jullundur is in pursuance of the prime minister's direction to his cabinet colleagues to visit Punjab to help accelerate the process of normalization for which several initiatives are already underway. Later, during the day the minister is scheduled to visit Chandigarh also. He is accompanied by the secretary of information and broadcasting, Mr. Suresh Mathur, and other senior officers from the ministry.

Multinationals Take Advantage of Controversy in C-DoT*90WD0574 Bombay THE TIMES OF INDIA
in English 28 Jun 90 p 10*

[Article by Rajesh Kalra: "Telecom Multinationals Gain"]

[Text] The telecom multinationals are taking full advantage of the controversy dogging C-DoT by stalling its prospective export orders. "There own government does not have faith in their product. Why should you go in for that technology?" Is the argument they are putting forward to brainwash prospective buyers.

Experts are convinced that if the present uncertainty over C-DoT is not removed quickly enough, and the delay in productionising C-DoT products persists, the MNCs would use it as a lever to rob the country of a lucrative export market.

What the experts find frustrating is the fact that the Indian government is doing almost nothing to check this propaganda, and allege that the MNCs have effectively stifled the project by their sheer money muscle. They also say that France's Alcatel has hired the services of a Paris-based PR firm for \$5 million to lobby with the Indian government.

The developed country market being mostly saturated, it is only in the developing countries of Asia and Africa as well as in Eastern Europe that the real markets exist.

It is now known that C-DoT was on the verge of obtaining huge orders from many countries from these regions for its EPABXs, RAXs, MAXs and digital switching systems (DSS). Discussions with many countries were in the final stages not only for supply of C-DoT equipment, but also for transfer of technology.

Besides, a memorandum of understanding (MOU) had been signed by TCIL on behalf of C-DoT, with the Post & Telecommunications Corporation (PTC), Zimbabwe, for setting up a joint-venture company for the manufacture of telecom equipment in Zimbabwe. The PTC had agreed to take up the proposal with its government. The digital telecom equipment manufactured would have catered to the needs of Zimbabwe and other countries in southern Africa.

Another MOU was signed with the telecom department of Vietnam for setting up an assembly and manufacturing unit for C-DoT RAXs in that country.

The high-power delegation from the USSR which accompanied Mr Gorbachev on his Indian visit in November 1988 had also evinced a keen interest in C-DoT's 500 line exchange and wanted a prototype on a trial basis for Moscow. It now appears that taking advantage of the controversy, a South Korean firm, believed to be Daewoo, is making a bid for the same.

Opportunity Lost

The recent meeting in the United States between the South Korean president and Mr Gorbachev could have strengthened the case for Daewoo. Experts rue that a golden opportunity to gain a foothold in the new East European market has been lost with the Soviet order.

Serious inquiries from Saudi Arabia for use of C-Dot 512 port exchange and Afghanistan, which wanted C-DoT to help in the rehabilitation and expansion plans of the telecommunication network had been received. Afghanistan had also expressed its desire for C-DoT's DSS, EPABX, RAX and MAX. Apart from these, orders had already been received for three RAXs from Nigeria.

C-DoT had a good chance of getting these orders as it has an advantage over other manufacturers in the sense that these countries face almost the same problems as India so far as environment and state of the telecom network is concerned. C-DoT technology, developed especially for India, would have fitted the bill adequately.

The MNC's realise that they don't have products as good as C-DoT to cater to such burgeoning markets. Fearing the loss of this market, they are learnt to be trying to stall C-DoT's progress. In fact, Alcatel even showed an interest in C-DoT's RAX technology, but was refused by the C-DoT management, fearing it might be used to compete against them in the international market.

The global demand for telephone lines by 1993 is likely to be 55 million per annum. The Asian continent will be the biggest market with demand for approximately 15 million lines, to be followed by Western Europe with 12 million, North America with 8 million and the remainder spread over the rest of the world.

Experts admit that though "we've lost out much," C-DoT is still in a position to make a dent in the world market.

Papers Report Developments in INSAT Program

INSAT-1D Beams Picture

90WD0576 Madras THE HINDU in English 23 Jun 90
p 1

[Text] Bangalore, 22 June—The multi purpose INSAT-1D has beamed the first trial cloud cover picture even as

all the payloads on board the spacecraft were tested and found to be working normally.

The three-in-one satellite, which will be boon to telecom, television and radio networking and weather monitoring, is expected to be declared operational in about 3 weeks, an Indian Space Research Organisation (ISRO) press release said here today.

The satellite reached its final parking slot at 83 degrees east longitude yesterday and a small trim manoeuvre today halted its drift.

Various payloads of the satellite were switched on in phases starting from 20 June.

The 12 c/band transponders and the two high power s/band transponders were switched on and verification tests confirmed that all of them were functioning as expected.

The data relay transponder meant for collecting meteorological and other data from remote locations is also working well.

Detailed in-orbit characterisations of the payload had started and would continue for about 3 weeks. Thereafter, the satellite would be pressed into operational service.

Operations at the Master Control Facility (MCF) at Hassan near here are being carried out by a joint team of engineers and scientists from India's Department of Space and the Ford Aerospace Corporation.

The Indian scientists would assume full operational control of the spacecraft in the next few days, the release said.

Plans for INSAT-2

90WD0576 New Delhi PATRIOT in English 12 Jul 90
p 5

[Text] The first Insat-2 satellite does not figure in the list of satellites to be launched by Arianespace, the European space agency, until the end of 1991, reports PTI.

The Arianespace launch manifest released on Wednesday contains a list of all satellites to be put into earth orbit using the Ariane launch vehicle through 13 launches, all scheduled between July 1990 and November 1991.

According to the Indian Department of Space Annual Report, the first of the Insat 2 satellites was scheduled to have been ready for Ariane launch by the end of 1991.

The Insat-2 satellites will be completely indigenous and are intended to take over from the Insat-1 series which were bought from the United States.

According to an Arianespace press release received in New Delhi on Wednesday the schedule of launches takes into consideration the availability and compatibility of satellites.

As of 11 July 1990 the Arianespace orderbook stood at 39 satellites, worth a total of \$2.8 billion, the release said.

IRAN

New TV Satellite Station Commissioned

*LD1808132390 Tehran Domestic Service in Persian
0730 GMT 18 Aug 90*

[Text] The 10-watt-strong Buchir satellite station was commissioned at the beginning of the week, beaming the programs of the first channel of the Islamic Republic of Iran's Vision.

According to the Central News Unit report, all operations concerning the installation and commissioning of the satellite station were implemented by the experts and engineers of the television and FM transmitters unit of the Persian Gulf Center.

The inhabitants of the villages of Buchir and Hashniz from the district of Gavbandi of Bandar Lengeh will now be able to receive the programs of the first network on channel 12.

Satellite TV Station Commissioned in Ilam Province

*LD2808123190 Tehran Domestic Service in Persian
1030 GMT 28 Aug 90*

[Text] The 16th satellite television station in Ilam Province became operational today. According to the Central News Unit, with the inauguration of this station—which boosts by 10 Watts the broadcasts of Network-One of the Vision of the Islamic Republic of Iran [IRI] on Channel Six—the villages of Chaharmeleh, Baskoleh-Garmeh, and Sarasmanabad of Ivan ward, a district of Ilam, to totalling 2,000 inhabitants, will come under the coverage of Network-One of the vision of the IRI. This television station was set up and made operational by the engineers and technicians of the television relay and repair and maintenance unit [tvrmu] of the Voice and Vision of the IRI in Ilam.

Also, with the commissioning of the Dahaqan region television relay station, the broadcast of programs of Network-Two of the Vision of the Islamic Republic of Iran began in this region. This television relay station, which broadcasts the Vision of the IRIS's Network-Two program on Channel-Two at a strength of 10 watts for 20,000 households of the Dahaqan region, was made operational by the Esfahan TVRMU.

TV Satellite Ground Stations Commissioned in Kerman

*LD3008210590 Tehran Domestic Service in Persian
1630 GMT 30 Aug 90*

[Summary] With the commissioning of two, 10w television satellite ground stations in Qal'ehganj and Manujan districts in Kerman province, 65,000 inhabitants in 95 villages in Kahnij will now receive Iranian television first channel programs on channels 10 and 11 respectively.

PAKISTAN

Contact Lost With Spacecraft Badr-1 Since 20 Aug

*BK2908102990 Islamabad THE MUSLIM in English
29 Aug 90 p 1*

[Text] Karachi, Aug 28—Contact with Badr-1, Pakistan's first spacecraft launched on July 16, 1990, has not been established since August 20.

The possible reasons for the loss of signals is being investigated and SUPARCO [Space and Upper Atmosphere Research Commission] engineers are continuing their efforts to establish the contact with Badr-1, official sources said here on Tuesday.

The lifetime of Badr-1, was anticipated as 5 to 6 months and till August 20, Badr-1, completed more than 500 orbits around the earth and successfully delivered valuable data.—PPI [PAKISTAN PRESS INTERNATIONAL]

SUDAN

Radio Announces Reactivated Frequency

*EA1408204490 Omdurman Domestic Service in Arabic
2145 GMT 12 Aug 90*

[Text] Dear listeners, we would like to draw to your attention the fact that our transmitter on 231 meters or 1296 khz medium-wave has resumed broadcasting for a trial period. It will operate in the morning from 0500 to 0700 [0300-0500 GMT] and in the evening from 1900 to signoff at midnight [1700-2200 GMT].

It is expected that the transmissions on this wave length will cover all of Sudan, the southern parts of the Arabian peninsula, and Yemen. To the west, they will cover the central parts of the Central African Republic, Chad and southern Libya. To the north, they are expected to be heard clearly up to the Mediterranean and to the south in Kenya, Uganda and Zaire.

We hope that our dear listeners in these areas will inform us of the quality of reception and whether there is any interference with other stations, etc. We also hope they will inform us of the type of radio they use. Kindly send

the reports to this address: Sudanese radio, department of [word indistinct] affairs, Box 572, Omdurman.

(EAU reports that Sudanese radio's transmissions on 1296 khz are now being observed again at eau after a period of several weeks during which they were unheard. Sudanese radio is also currently heard on hf on 9535 or 11632 khz at various times of the day; and on 9550 khz at 1300-1400 khz, co-channel with radio SPLA at the same time.)

Opposition Accused of Aiding 'Outlaws' Radio

*EA1708060490 Khartoum SUNA in Arabic 1025 GMT
16 Aug 90*

[Text] Khartoum, 16 August (SUNA)—A responsible source revealed today that the so-called National Alliance recently donated technical equipment and materials to strengthen the outlaws' radio station. The source

explained that Mubarak al-Fadl al-Mahdi, former minister of commerce, donated this equipment to Tooge John Garang.

The source added that the donation of this equipment and materials comes with the launching of a psychological war against the Sudanese masses and of broadcasting false propaganda [words indistinct] aimed at misleading public opinion. It described this as a fresh media war by the outlaws.

Fugitive Mubarak al-Fadl donated this equipment to the movement to give him an opportunity to practice his corruption on the radio. The Sudanese people, know all this and in particular that the fugitive Mubarak has become a mercenary under the mercy of the outlaw John Garang.

'Echo of Moscow' Radio Begins Broadcasting 22 Aug**Two-Hour Trial Channel**

[For earlier report, see JPRS-TTP-90-009, 13 Aug 90, p 10]

LD2208211190 *Moscow Domestic Service in Russian*
0900 GMT 22 Aug 90

[Text] There is a new Moscow radio. Starting today on the medium wave in the frequency 1206 Khz it will be possible to hear broadcasts of the radio station Ekho Moskvy. Today at 1900-2100 it will go out on the air for the first time. As its editor-in-chief (Korzun) said in an interview, the radio station was set up independently of USSR Gosteleradio as an alternative to it. Its founders are the Moscow Soviet, the Radio Association attached to the USSR Ministry of Communications, the journal OGONEK, and the Moscow State University Faculty of Journalism. Ekho Moskvy will operate daily in the two-hour trial channel regime until October. Then it is intended to increase the duration of broadcasts up to six hours, and after the new year it will possibly switch to a 24-hour regime. Broadcasts are aimed at the widest circle of listeners. Each can choose a program to his taste. The Ekho Moskvy editorial office promises to provide varied and interesting information about the life of the capital and about Muscovites.

Content of First Broadcast

LD2208210590 *Moscow Domestic Service in Russian*
1800 GMT 22 Aug 90

[Summary] The first broadcast of a new radio station called Ekho Moskvy of Radio-M ended an hour ago. Its founders are the Moscow City Soviet, the Radio Association, the OGONEK magazine, and the Moscow State University Faculty of Journalism. Correspondent Aleksandr Nefedov spoke to Sergey Korzun, editor-in-chief of Radio-M.

Radio-M is an experimental channel which will broadcast for two hours, Korzun said. Each broadcast will consist of one hour of spoken programs and one hour of music and advertisements. Radio-M has "signed an agreement with the FRANCE PRESSE AGENCY supplying it with information from which anything that can be of any interest to Muscovites about world events being selected. Besides, there is an agreement with the INTERFAX agency that will provide information from the Soviet Union and Moscow, and, of course, Radio-M's own employees and friends in other cities and regions of the Soviet Union also undertake to supply it with information."

Solar-power Radio Link Opens in Kazakhstan

LD3008102490 *Moscow Domestic Service in Russian*
0800 GMT 30 Aug 90

[Summary] A solar-powered rural radio relay link of 130 kilometers has started carrying programs to remote villages in Dzhezkazgan oblast in Kazakhstan.

Leningrad, Minsk To Establish Fiber-Optic Link

PM3008102990 *Moscow PRAVDA in Russian*
29 Aug 90 Second Edition p 1

[Correspondent N. Volynskiy report: "Light Telephone"]

[Text] A fiber-optic link will connect Leningrad to Minsk. It will be about 730 km long. Just what is a fiber-optic link? Well, when we talk on a conventional telephone the signal is transmitted using electromagnetic waves along a metal cable. In the new system, however, the signal is carried by light. The eight-strand cable between Leningrad and Minsk is capable of carrying 15,000 conversations at any one time. Teletype, facsimile, and television communications can also be made using this line. And here is another interesting point: The glass cable will not oxidize or rust, nor does it face any electromagnetic or climatic impedents.

Siberian Towns To Receive Leningrad TV

LD2508015990 *Moscow Domestic Service in Russian*
1100 GMT 24 Aug 90

[Text] Starting from today inhabitants of the Siberian towns of Kurgan and Shadrinsk will be able to watch popular programs of Leningrad television. To achieve this, local telecommunications workers installed additional tv transmitters. In the Kurgan Oblast the construction of microwave radio links and relay transmitters continues. Their commissioning will increase the quality of reception of central and local television in the most remote village of the oblast.

Moldavian Gostelradio Stops Gagauz TV Programs

LD2708135890 *Moscow Television Service in Russian*
1200 GMT 27 Aug 90

[From the "television news service" program; all named speakers indented by screen caption]

[Text] As you know, the parliament of Moldavia has not recognized the recently-established Gagauz Republic within a renewed union of the Soviet Socialist Republic. The conflict between the Moldavian leadership and the Gagauz is continuing, and is assuming fresh forms.

[Begin recording] [Correspondent Fateyev, seen interviewing a group of six men in a city square] And now here is Odessa there is a delegation from the Gagauz rayons of the Republic of Moldavia. The first question, of course, is why you are here?

[M.V. Kendigelyan, deputy chairman of the Komratskiy rayon soviet] We are here in order to break through the

blockade of the mass information media of the Republic of Moldavia which followed the formation of the Gagauz Republic on 19 August 1990.

[I.I. Anastasov, director of Kamrat television studios] I represent the local television studios. We went on the air and broadcast 10 programs.

[Fateyev] In the Gagauz language?

[Anastasov] In Gagauz and in Russian. We broadcast local news. But now the Gosteleradio and the Ministry of Communications have banned us from...

[Fateyev, interrupting] Whose Gosteleradio?

[Anastasov] Gosteleradio of Moldavia. We have not gone on the air (for five months now).

[G.I. Kalchu, lawyer, people's deputy of Moldavia] We would like to take this opportunity to see that all citizens of our country, of all the republics in the union, understand us correctly, should understand that we are not extremists of any kind. We want to make the country aware of what the Gagauz people want, and of the fact that the Gagauz people have never committed any acts against the Moldavian people, and that we shall strive to ensure that none should occur in the future.

[Fateyev] Sergey Fateyev, special correspondent in Odessa, for the television news service. [end recording]

Lithuanian Party Operates Radio Station

*LD1708222590 Vilnius International Service in English
2200 GMT 16 Aug 90*

[From "DX Program Number 39"]

[Text] Speaking of the Lithuanian branch of the CPSU, they already run a radio station, named Tarybu Lietuva. The Lithuanian DX Club (Banga) has issued an audio cassette which might be of interest to DXers and DX clubs, especially to those compiling DX archives. The cassette contains facts on Tarybu Lietuva which were already broadcast in our DX programs, its identification signal, and the very first regular broadcast which we recorded in full. All comments are in English.

The cassette may be obtained for 15 international reply coupons from the Lithuanian DX Club, PO Box 1646646232010232010 Vilnius Lithuania or at the English section of Radio Vilnius.

Lithuanian Town of Silale Broadcasts 'Own' TV Programs

*LD1708221790 Vilnius International Service in English
2200 GMT 16 Aug 90*

[From "DX Program Number 39"]

[Text] On 25th July the small town of Silale in the western part of Lithuania started its own television broadcasts. They are on the air twice weekly after the

close down of the Lithuanian television, which is relayed here on channel R-6 from a 100 watt transmitter.

One of the two weekly broadcasts is compiled by the district municipality of Silale and the other by the local group of Sajudis. To produce the program a special television studio was set up, which by the way is still looking for an editor in chief.

It is worthwhile to note that all those positive in my opinion changes are taking place in the zone of the Kaunas radio and television transmitting center. In Vilnius, however, the developments seem to be going a conservative way. A television transmitter on channel R-11, which previously was used to relay the second program of the Central Television from Moscow, is now inactive and so far there are no talks about reactivating it.

So using the occasion, the Lithuanian branch of the Communist Party of the Soviet Union has asked the Lithuanian Telecommunications Ministry to grant it a right to use the transmitter for broadcasting of its own television program. The Ministry has not made any final decision yet but like other proposals this may be accepted.

Lithuanian Towns Receive Satellite TV Relays

*LD1708205790 Vilnius International Service in English
2200 GMT 16 Aug 90*

[From "DX program Number 39"]

[Text] Two more towns in Lithuania have introduced satellite television relays, Alytus and Druskininkai, both located in the southern part of the country.

Alytus is Lithuania's sixth largest city, it has a population of more than 70,000. Two television transmitters, both of the capacity of only 100 watts located here, are relaying Soviet Central Television. From 2nd August one of them is used to relay the German satellite television program SAT-1 as well. This program is on air after the close down of the Second program of Central Television and runs until the close down of SAT-1. Besides, on week days SAT-1 is also relayed from 12 to 15 hours UTC [coordinated universal time] on the same channel, that is channel R6.

Druskininkai is a small spa town in the very south of the country and has only one television transmitter which relays Lithuanian television on channel R-1. This is now used to relay the German SAT-1 program as well. These relays started on 1st August and are on the air daily after the close down of the Lithuanian television until the close down of SAT-1.

In both cases the SAT-1 program is feeded to the transmitters by microwave link from Juragiai, a small village south west of the Kaunas, where the television transmitting station of the Kaunas radio and television transmitting center is located.

Estonian Inter-Movement Radio to Open

*LD2308161490 Tallinn RAHVA HALL in Estonian
16 Aug 90 p 1*

[Article by Peeter Raidla: "The Voice of the Inter-Movement' Will Start Broadcasting on the Radio"]

[Text] Representatives of the Inter-Movement announced yesterday that starting from next week the "Voice of the Inter-Movement" radio station will begin test broadcasting. The melody for the signature tune has been borrowed from Petr Chaykovskiy. Broadcasts will be on the airdaily between 0630 - 0800 and 1830 - 2000. The programs can be received on short wave (25 m). The location and power of the transmitter have not been specified, but it is said that the whole of Estonia has been considered.

One can therefore expect a mass propaganda campaign.

Private TV Company Founded in Vladivostok

*LD1608124790 Moscow World Service in Russian
0936 GMT 16 Aug 90*

[Excerpt] A group of journalists has founded an independent joint stock tv company in the Far East town of Vladivostok. The local authorities have allocated morning time for it to broadcast. The program of broadcasts of the new tv service contains local news, world events, and children's programs. The tv company's sponsor is the Far East Merchant Marine. Meanwhile, in the Soviet capital, an independent radio station, Ekho Moskvyy, has been set up on approximately the same principles. [passage omitted]

Independent TV Station Opens in Kodinsk, Krasnoyarsk Kray

PM1908184790 Moscow PRAVDA in Russian 14 Aug 90 First Edition p 6

[Own correspondent V. Trokhin dispatch: "Television at Own Expense"]

[Text] Krasnoyarsk—In Kodinsk, the city of the builders of the Boguchanskaya GES [hydroelectric power station] the country's first people's television studio has started broadcasting.

It differs from the numerous cooperative cable studios in that it is funded by the city's inhabitants and enterprises on a voluntary basis. It has been decided by resolution of the city soviet to introduce, as of 1 January next year, a special tax at the rate of three rubles per family for the needs of the city television studio.

This was preceded by a citywide referendum in which the overwhelming majority of citizens expressed themselves in favor of the establishment of their own television. At the moment the studio is funded by resources allocated for this purpose by the city's enterprises.

So far the broadcasting time of its own programs is short, about an hour and a half per day. It is devoted to local news and current affairs programs. In time it is planned to extend air time and to exchange programs with other similar studios.

Cable Television Established in North Ossetia

*LD1908125690 Moscow Domestic Service in Russian
1100 GMT 19 Aug 90*

[Text] A local television studio set up on the initiative of the town executive committee and the autonomous republic's Gosteleradio began today regular cable television broadcasts in Mozdok, Severo-Osetinskaya ASSR. For the moment entertainment programs and films are being transmitted, but beginning in September there will be programs produced by the studio itself—local news, broadcasts by industrial managers, agricultural experts, people's deputies, and law enforcement officials.

Cable TV To Be Set Up in Yoshkar-Ola

*LD1508094190 Moscow Domestic Service in Russian
0400 GMT 15 Aug 90*

[Summary] Mari television's First Program went on the air exactly 30 years ago and now transmits two all-union and one local program in Russian and local languages. Work has started in the area across the river in Yoshkar-Ola to install cable television which will cover the whole autonomous republic in the near future.

EUROPEAN AFFAIRS

European Rocket Places 2 Satellites In Orbit

PA3108005690 Hamburg DPA in Spanish 2352 GMT
30 Aug 90

[Text] Kourou, 30 Aug (DPA)—This evening a European rocket placed two communications satellites in orbit. The Ariane rocket of the 44-LP type was launched at 2246 GMT from the Kourou Space Center in French Guiana. The rocket was carrying the Eutelsat, a modern satellite for television, telephone, and data transmission. This satellite will be operated by Eutelsat, a European organization. The rocket was also carrying a Skynet 4-A communications satellite belonging to the British Defense Ministry.

The purpose of the Eutelsat II-F1 satellite is to improve the communications between Eastern and Western Europe. Through its antennas it is possible to have simultaneous transmissions of television programs or exchanges of data from the Canary Islands to Israel or from northern Africa to the North Pole.

The Eutelsat organization, made up of 28 countries, wants to launch five more of these new satellites by the end of 1992. These new satellites can accommodate more channels, allow for greater projection, and have a greater reception capability for smaller antennas.

The II-F1 satellite will replace the Eutelsat I-F4, which has a 10-channel capacity and has been in orbit since 1987. This satellite will be used in the future in other ways.

FRG, GDR to Collaborate in Telecommunications

90P60045p East Berlin NACHRICHTENTECHNIK-
ELEKTRONIK in German No 6, 90

[Summary] During the 1990 Leipzig Spring Fair, East Germany's VEB Telecommunications Electronics, along with other state-owned entities, laid the contractual groundwork for an East-West joint venture with the FRG's Elektronik Lorenz AG. The effort, to be established as a limited liability corporation, involves primarily cooperation in the areas of switching technology and special-purpose networks, including cable-connected transmission equipment, directional radio and office communications electronics. Initial plans call for establishing a switching system production facility in the VEB Telecommunications Electronics in Arnstadt. With production slated to begin in 1991, the effort anticipates producing 900,000 connectors annually and expects to deliver 1.5 million connectors to the German Postal System by 1995.

CANADA

Nortel To Supply Meridien Phone System to Germany's BASF AG

90WT0133 Toronto THE TORONTO STAR in English
17 Jul 90 p H1

[Text] Northern Telecom Ltd. of Mississauga has won a major order of symbolic importance in West Germany, home of one of its leading European rivals, Siemens AG.

Northern said yesterday it will supply the German chemical giant BASF AG with a 30,000-line Meridian 1 phone system that will become Germany's largest private communications network and Northern's largest installation in Europe.

The new communications system, to be supplied from a Northern factory in Europe, will carry voice messages and text transmissions and link personal computers.

"This is a major breakthrough for the company into one of Europe's most important telecommunications markets," said Pat Hogan, a group vice-president for Europe.

Previously Northern has supplied switching equipment to the German post office and in June set up its first sales office in East Germany.

Alberta Telephone Reorganizes, Sells Half of Novatel

90WT0139 Toronto THE GLOBE AND MAIL
in English 28 Jul 90 p B5

[Article by Christopher Donville, Alberta Bureau]

[Excerpt] Calgary—Alberta's Conservative government has unveiled a new name and corporate structure for soon-to-be-privatized Alberta Government Telephones.

Neil Webber, chairman of AGT, said the province has taken a page from the corporate structure of Montreal-based BCE Inc. to create a holding company called Telus Corp.

Telecommunications business now managed by AGT and four subsidiaries will be divided among seven subsidiaries, which in turn are to be overseen by Edmonton-based Telus, he said yesterday.

"This new structure prepares us to effectively operate as an investor-owned company," he said at a news conference in Calgary. "Our core businesses are now aligned to compete aggressively."

Shares of Telus are expected to go on sale in early September. A preliminary prospectus is to be filed with authorities in Alberta, Ontario and Quebec within two weeks.

Telus, which will be owned initially by both the public and the provincial government, will coordinate the seven

subsidiaries, including AGT Ltd., a provider of local and long-distance telephone service.

"AGT Ltd. will be the bread and butter of Telus," said Mr Webber, a former Alberta minister of energy, who will act as chairman of both Telus and AGT Ltd. The two companies will also have the same board of directors.

The latest news is the first concrete announcement on AGT's privatization since Premier Donald Getty rose in the Alberta Legislature on 31 May to say he would sell shares to the public.

Closely matching the structure of BCE, Mr Webber said Telus is similar to other privatized crown corporations in British Columbia, Saskatchewan and Ontario.

Alberta decided to make AGT Ltd. a separate subsidiary of Telus because the federal government, through the Canadian Radio-Television and Telecommunications Commission, is about to gain jurisdiction over all provincial telephone companies.

Moreover, Mr Webber said the telephone company wanted to retain the established name "AGT" for its thousands of residential and business telephone customers.

The other subsidiaries to fall under the Telus umbrella are: AGT Cellular, AGT Directory, Alta Telecom International Ltd., Alta Telecom Inc., Alta-Can Telecom Inc. and Novatel Communications Ltd.

Earlier this week, Robert Bosch GmbH of Stuttgart acquired a 50 per cent share of Novatel, Canada's only cellular phone maker, for about \$100-million. [passage omitted]

CYPRUS

Cooperation Protocol Signed With Syrian Radio, TV
NC2408120890 Nicosia Domestic Service in Greek
1030 GMT 24 Aug 90

[Text] The Cyprus Broadcasting Corporation and Syrian radio and television have signed a protocol on cooperation for the 1990-91 period. The agreement, which falls within the framework of the cooperation between the two countries, provides for the exchange of programs, news, and experiences as well as the promotion of joint productions.

The agreement was signed in Damascus by Kiprianou, general manager of the Cyprus Broadcasting Corporation, and Hijazi, director general of Syrian radio and television.

FEDERAL REPUBLIC OF GERMANY

FRG TV To Take Over GDR TV Frequencies
LD2908170790 Hamburg DPA in German 1459 GMT
29 Aug 90

[Excerpt] Berlin (DPA)—Following German unification, the programs of the Federal Republic's public television corporations are to be broadcast on the channels of GDR

Television. First German Television (ARD) will in future be broadcasting its program on the present channel of the first program of DFF, DFF Director Michael Albrecht announced in East Berlin today at a hearing of the People's Chamber's Media Committee. In the early evening there will be, on the Federal German pattern, two-hour regional programs of the new laender.

Albrecht said that ZDF would use hitherto unoccupied frequencies. The DFF headquarters in Berlin will broadcast, as a new full program, a third program with successful features such as "elf 99", children's television, and other features and contributions from the five laender stations. [passage omitted]

UNITED KINGDOM

UK To Contribute to European Climate Satellite
90WT0141 London THE DAILY TELEGRAPH
in English 11 Jul 90 p 4

[Article by Roger Highfield]

[Text] A long wrangle between Britain and France over plans for climate research observation from space has ended with the Government agreeing to put £60 million into a European satellite project.

The formal announcement follows an agreement by France and Italy to back the project, called ERS-2, a satellite which will bridge the gap between two European observation projects and allow a constant flow of data vital to the study of climatic change.

The ERS-2 satellite is due to be launched in April 1994 and will complement ERS-1, due to go up next April, and a polar observation satellite which should be in orbit in 1997.

"The ERS-2 programme has now formally commenced following confirmation of subscriptions from all participating states," said Mr Douglas Hogg, Industry Minister.

Continuous climate observation will be welcomed by the scientific community and those who use such information for planning agricultural and other land use and for studying the environment.

Britain and Spain are to collaborate in synchrotron radiation research at Daresbury Laboratory, near Runcorn, Cheshire, where intense X-rays are used to study materials from metals to viruses.

The three-year agreement was signed by Prof Sir William Mitchell, chairman of the Science and Engineering Research Council, and Prof Juan Rojo, Spain's Education Secretary. The Spanish will contribute scientists and technologists to the lab, which is also attempting to sell its services to industry.